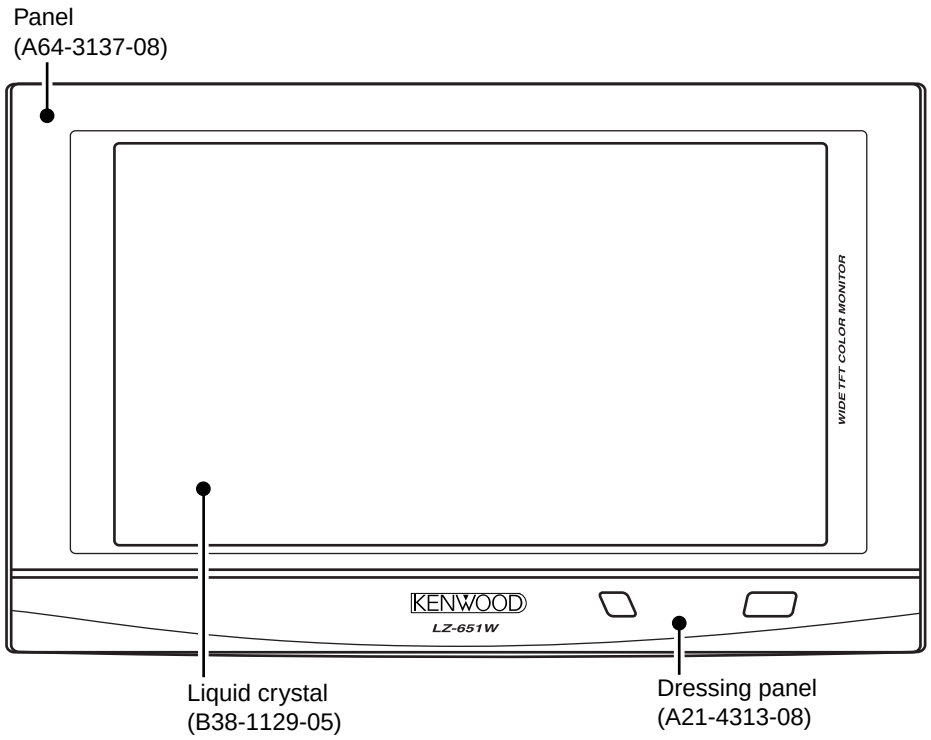
6.5-inch WIDE TFT COLOR MONITOR

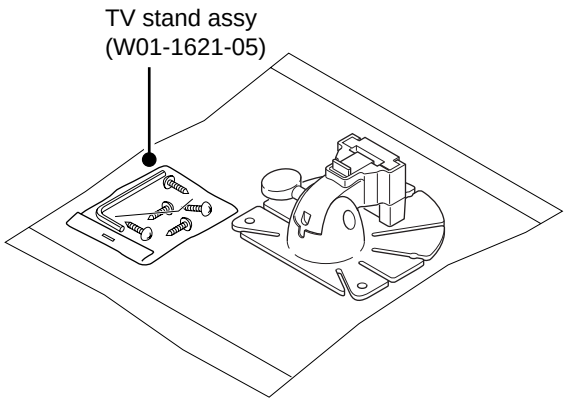
LZ-651W

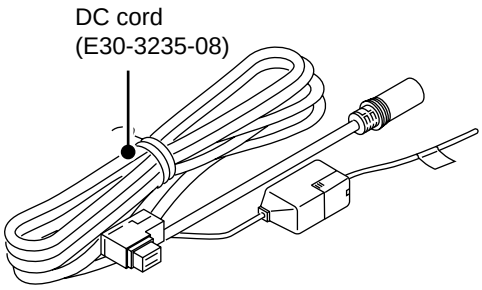
SERVICE MANUAL

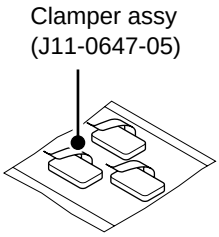
KENWOOD

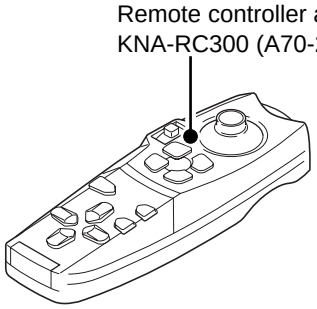
© 2003-5 PRINTED IN JAPAN
B53-0060-00 (N) 3100

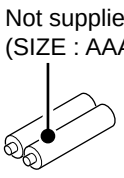




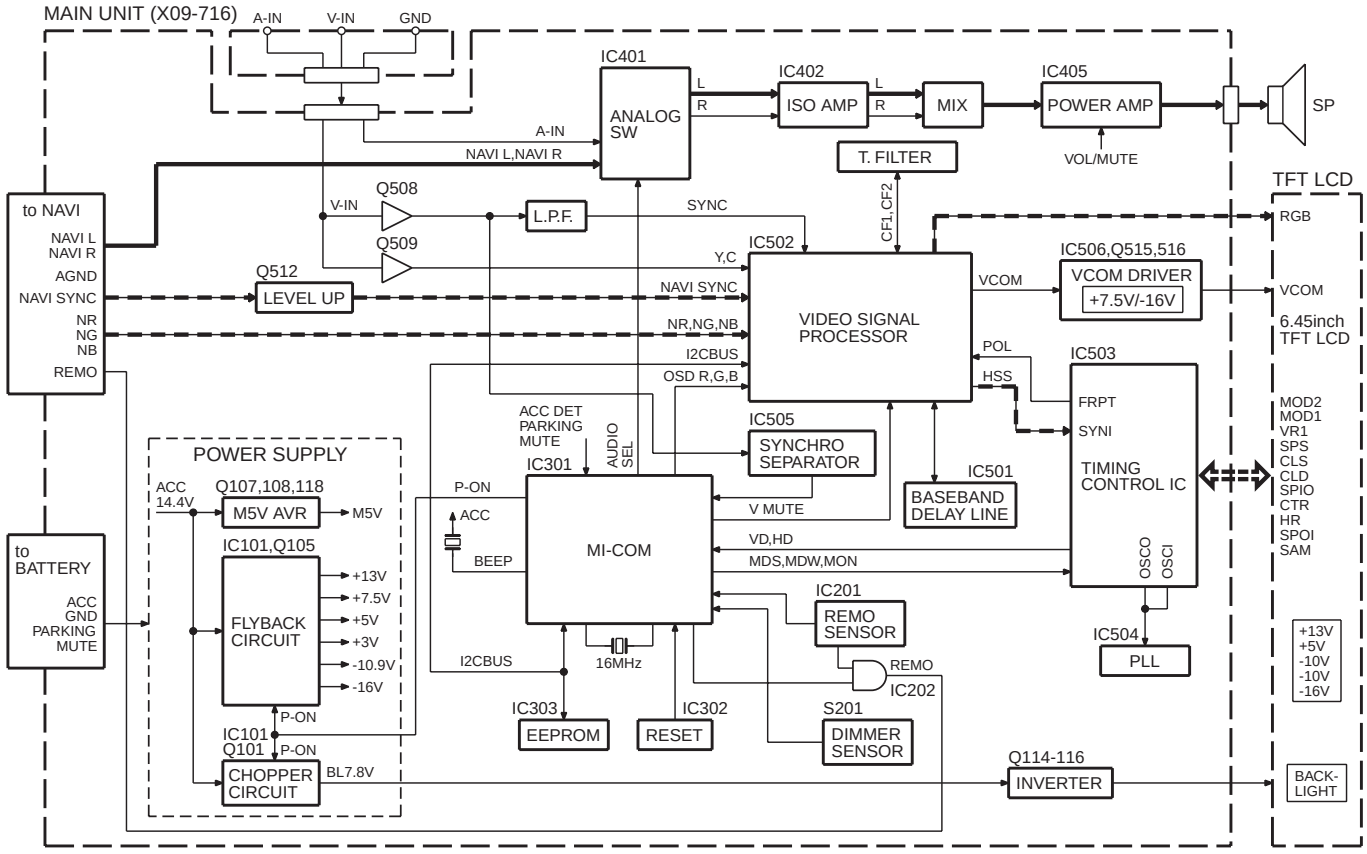


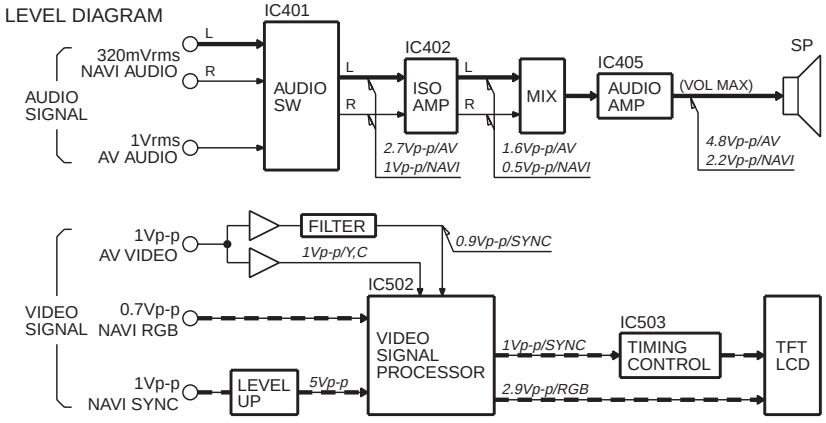






BLOCK DIAGRAM





COMPONENTS DESCRIPTION

● MAIN UNIT (X09-7161-00/7162-00)

Ref No.	Parts No.	Specification / Function
IC101	FA7703V	Switching power supply control IC (Main system and the power supply for inverters are controlled. It has the regulator of 2.2V in an inside.)
IC201	TSOP1838-NK	Remote control IC (In response to the infrared signal from remote control data is transmitted to a microprocessor).
IC202	TC7SH08F-TE85L	Remote control signal buffer (When the microprocessor pin No. 14 is H, remote control signal is sent to NAVI unit)
IC301	TMP88CP38AF-NK	System control microprocessor (In addition to the demand processing from remote control etc., OSD is displayed on a liquid crystal display monitor by the RGB output data)
IC302	S-80845CNNB-NK	System reset IC
IC303	S-24CS02AFB-NK	E2PROM (Such as a user setup data is back up for E2PROM memory)
IC401	TC4053BF (N)	C-mos analog switch (Selector of Input audio signals)
IC402	BA3121F	Reduces of in-phase of noise for input signal
IC405	TDA7052BT	Monophonic power amplifier of an audio power amplifier BTL system. Volume is controlled on the voltage of VC terminal.
IC501	TDA4665T	Base band delay line (One-line delay line)
IC502	AN2546FH-A	Video signal processing IC for liquid crystal display monitor
IC503	LZ9GJ25	Timing control IC for liquid crystal display monitor
IC504	NJM2107F	VCO low path filter
IC505	MM1108XFFE	Vertical synchronies separation IC (PAL/NTSC automatic distinction)
IC506	NJM4580V	VCOM signal is received from the dual operational amplifier IC 502, and gain adjustment and a level shift are performed.
Q101	2SJ377	Switching regulator
Q105	2SK3416TL-NK	Switching regulator (Main power supply : Power MOS FET)
Q106	2SD1766	Power supply for COM signal line (7.5V)
Q107	2SB1203-FA	Power supply for microprocessor (5V)
Q108,118	2SC4081	
Q112	DTC124EUA	PWM signal buffer (from microprocessor)
Q113	DTA143EUA	Switching for inverter circuit (receiving to PWM signal from microprocessor)
Q115,116	2SC3518-Z-T1LK	Inverter voltage circuit (Switching frequency 55KHz)
Q201	2SC4081	ACC voltage detector
Q202	DTA124EUA	Packing detector
Q203	DTC124EUA	Muting detector
Q204	2SA1576A (R,S)	ACC voltage detector (detect voltage=9.5V)
Q205	DTC124EUA	ACC voltage high detector (17V)
Q401	DTC124EUA	Switching transistor (select to input signal NAVI or AV IN)
Q403	DTC124EUA	Audio muting transistor
Q404	DTC124EUA	Buzzer driver (BZ401)
Q501	2SC4081	Vertical synchronize separation
Q503,504	2SC4081	Composite synchronize buffer amp (Voltage shift 3V to 5V)

COMPONENTS DESCRIPTION

Ref No.	Parts No.	Specification / Function
Q506	2SC2413K	VCO circuit (23.979MHz for NTSC)
Q507	2SC4081	Impedance conversion
Q508	2SC4081	Buffer amp for synchronize signal
Q509	2SC4081	Croma trap selector (PAL : L, NTSC : H)
Q510	2SC4081	Synchronize signal clamp circuit
Q511	2SA1576A (R,S)	Synchronize signal amp (for NAVI signal)
Q512	2SC4081	
Q515	2SC4097	Liquid crystal display drive circuit (-side)
Q516	2SA1577	Liquid crystal display drive circuit (+ side)
Q702	DTC124EUA	Adjustment to horizontal position for NAVI / AV IN video signal

MICROCOMPUTER'S TERMINAL DESCRIPTION

● **Microprocessor : TMP88CP38AF-NK (MAIN unit : IC301)**

Pin No	Pin Name	I/O	Function (Pin condition)
1	L_MUTE_DET	I	NAVI voice interruption detection input terminal (Hi : With no voice interruption L : Navigation voice interruption)
2	PRK_DET	I	Parking sensor detection input terminal (H : Parking brake-on, L : Parking brake-off)
3	MODE	I	Change condition of microprocessor (H : NTSC, L : PAL)
4	NAVI/AV	O	Voice select output terminal for NAVI or AV-IN (H : Navigation, L : AV IN)
5	ACC_DET	I	Accessories power supply detection input terminal (H : ACC on, L : Drop down of ACC voltage line)
6	BEEP	O	Beep signal output terminal (2kHz pulse : timing for 60ms)
7	A_MUTE	O	Audio muting control signal output terminal (H : Muting on, L : Muting off)
8	NAVI_SYNC	I	NAVI SYNC detection input terminal (NTSC sync)
9	OPT_SENS	I	Optical sensor data input terminal (Analog input)
10	MDS	O	A screen display mode setting output terminal (* Please see for Table of Display mode)
11	MDW	O	A screen display mode setting output terminal (* Please see for Table of Display mode)
12	P_WATCH	I	Transformer output voltage surveillance input terminal (H : Abnormalities With transformer no output, L : Normal)
13	PAL/NTSC	O	Change condition of NTSC or PAL signal (H : NTSC, L : PAL)
14	REMO_SEL	O	Remote control data transmission change output to NAVI unit (H : transmission, L : no transmission)
15	VMUTE	O	Picture signal muting output terminal (H : Muting on, L : Muting off)
16	MDN	O	A screen display mode setting output terminal (* Please see for Table of Display mode)
17	NC	-	NC
18	OSD_R	O	R signal output for OSD (digital RGB)
19	OSD_G	O	G signal output for OSD (digital RGB)
20	OSD_B	O	B signal output for OSD (digital RGB)

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No	Pin Name	I/O	Function (Pin condition)
21	OSD_BLK	O	The blanking signal output for OSD (H : Displaying for OSD, L : Non-displaying for OSD)
22	HD	I	Horizontal synchronized signal input (for OSD)
23	VD	I	Vertical synchronized signal input (for OSD)
24	OVDD	I	Power supply for OSD circuit
25	OVSS	I	GND for OSD circuit
26	TEST	I	TEST terminal (Low fixed)
27	XIN	I	oscillator input terminal
28	XOUT	O	oscillator output terminal
29	RESET	I	RESET signal input terminal
30	NC	-	NC
31	RXIN	I	Remote control data input terminal (NEC transmitting format, command single transmitting mode)
32	V_SYNC	I	Picture signal detection (vertical synchronized signal) from AV-IN
33	SCL	I/O	I2C bus clock
34	SDA	I/O	I2C bus data
35	VVSS	-	GND
36	P-ON	O	Power supply control output terminal (H : Power supply ON, L : Power supply OFF)
37	VIDEO_SEL	O	Screen position adjustment and the time constant change output terminal (H : AUX, L : NAVI)
38	NC	-	NC
39	VDD	-	Power supply
40	VSS	-	GND
41	DIMMER	O	Back light tone light control output (PWM control : 150Hz)
42	VOL_CONT	O	Speaker volume control output (PWM control : 31.2kHz)
43,44	NC	-	NC

***DISPLAY MODE**

	MDS (10pin)	MDW (11pin)	MDN (16pin)
FULL	H	H	H
WIDE	H	H	L
NORMAL	H	L	H
CINEMA	H	L	L
ZOOM	L	H	H

TEST MODE

1 How to entered to TEST mode

At the time of NAVI screen or AV IN screen, key is pushed in order of the following by remote control unit.

"↓" ⇨ "VOL▲ (+)" ⇨ "VOL▼ (-)" ⇨ "→" ⇨ "←" ⇨ "VOL▼ (-)" ⇨ "VOL▲(+)"

* ←, ↑, →, ↓, mark are 3D Keys

2 EXIT for TEST mode

POWER OFF → ON or ACC OFF

3 Setup mode (starting)

Display mode	: FULL
Video source	: AV-IN
Audio source (SP mode)	: NOMAL
VOLUME	: 21
SCREEN CONTROL	
• BRIGHT	: MAX
• TINT	: CENTER
• COLOR	: CENTER
• CONTRAST	: CENTER
• BLACK	: CENTER
• DIMMER	: MIN (-30)
SYSTEM CONTROL	
• NAVI	: RGB
• AV-IN	: CAM
• BEEP	: ON

4 Adjustment of video parameter

It is function for adjusting the setting value to the video processing IC.

The value adjusted here is saved at E2PROM, and user cannot be changed for video parameter.

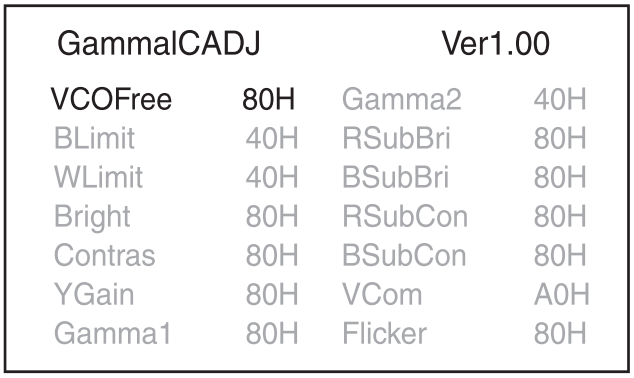
4-1 Adjustment item

Item	Display	CH	Default value
VCO FREERUN	VCOFree	CH16	0x80
BLACK LIMITEER	BLimit	CH5	0xC0 (HGA:1)
WHITE LIMITEER	WLimit	CH10	0x40
BRIGHT	Bright	CH6	0x80
CONTRAST	Contras	CH13	0x80
Y GAIN	YGain	CH2	0x80
GAMMA1	Gamma1	CH11	0x80
GAMMA2	Gamma2	CH12	0x40
Rch SUB BRIGHT	RsubBri	CH8	0x80
Bch SUB BRIGHT	BsubBri	CH9	0x80
Rch SUB CONTRAST	RsubCon	CH14	0x80
Bch SUB CONTRAST	BsubCon	CH15	0x80
VCOM	Vcom	CH1	0xDD
COMMON DC (FLICKER)	Flicker	CH23	0x80

4-2 Basic operation

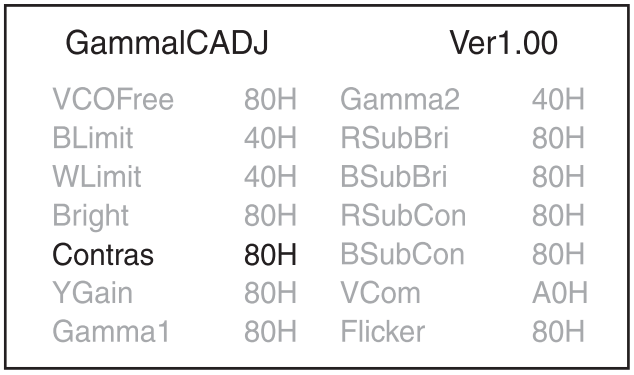
The "DIRECT" key is pushed for time of NAVI screen or AV-IN screen in test mode (Invalid during menu, screen control, and setup display). Cursor is expressed as red character and it is VCO free run the Initial function. Each adjustment value is expressed as green character.

Initial screen



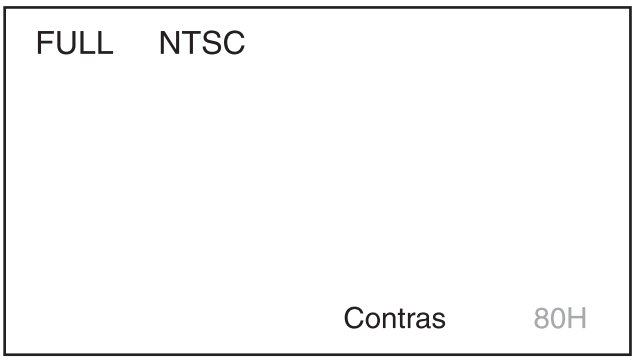
You can choused item of the function used by remote control cursor keys "↑", "↓", "→", "←".

Selection display



It decides by the "ENTER" key. Every item can be adjusted.

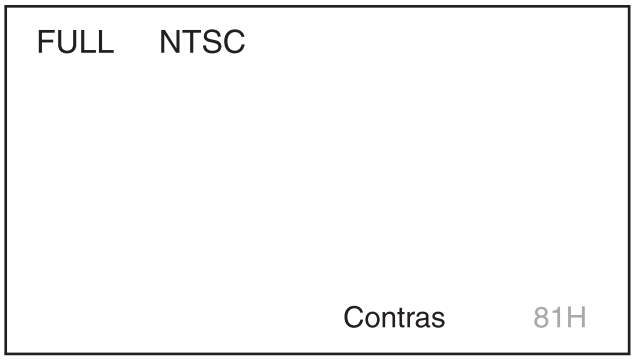
Item name and setting value on the display



TEST MODE

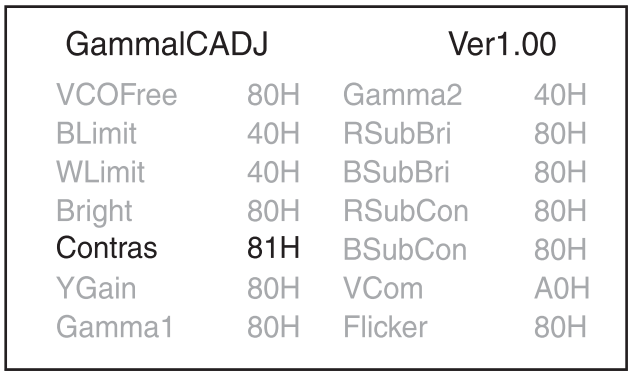
The key ("↑", "↓") of remote control is pushed and an adjustment value is changed the whole STEP.

When "↑" is pushed once by remote control



The "ENTER" key of remote control is pushed, setting value is decided, and it writes in EEPROM.
Push on the "DIRECT" key cancels for adjustment value, without writing in EEPROM (Contrast returns to 80H).

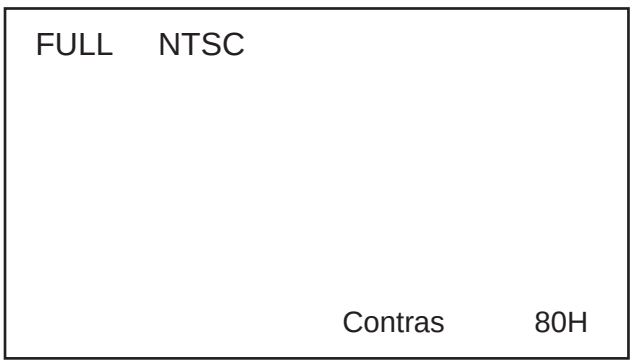
The completion display of item adjustment



The "DIRECT" key is pushed and it exits from the setup mode.

4-3 OSD UN-displaying

It will be UN-displaying if the "MENU" key is pushed during adjustment of each item in adjustment mode.



4-4 Change in the wide mode for display

During adjustment of each item in adjustment mode, push on the MODE key changes the wide mode for display.

5 Change of screen control steps

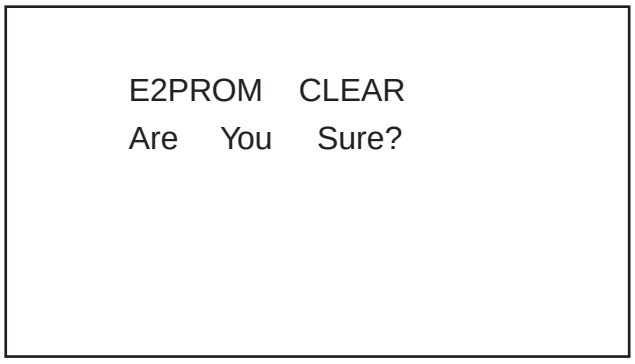
The function makes easy to perform the test of the screen control at the time of shipment inspection of operation. MIN ↔ CENTER ↔ MAX of each item is movable by one operation of remote control.

6 E2PROM clearance 1 (initialized of factory-shipments condition for setup and screen control)

6-1 Operation

It pushes with "→" ⇨ "→" ⇨ "→" in displayed NAVI screen or AV-IN screen in test mode.

Screen display



A setup at the time of factory shipments is written in by "ENTER" key, and "Complete" is displayed.
If it pushes except the "ENTER" key when exit without writing in and "Cancel" will be displayed.

6-2 Contents of initialization:

Video source	: RGB
Wide - mode	: FULL
SP source	: NORMAL
VOLUME	: 21
POWER	: OFF
SCREEN CONTROL	
• BRIGHT	: MAX
• DIMMER	: OFF
• TINT, COLOR, CONTRAST, BLACK	: CENTER
SYSTEM CONTROL	
• NAVI	: RGB
• AV-IN	: VD
• BEEP	: OFF

Cautions : Video parameter does not rewrite.

TEST MODE

7 E2PROM clearance 2 (initialization of video parameter)
When an unjust value is written in E2P ROM and abnormalities occur in video parameter, the contents are cleared and it restores.
If it performs, it will return to the initial value before adjustment at the time of factory shipment condition.

7-1 Operation
It pushes with "↑" ⇨ "↓" ⇨ "←" ⇨ "←" ⇨ "←" in displayed NAVI screen or AV-IN screen in test mode.

Screen display

SET UP DATA ALL CLEAR
Are You Sure?

A setup at the time of factory shipments condition is written in by "ENTER" key, and "Complete" is displayed.
If it pushes except the "ENTER" key when exit without writing in and "Cancel" will be displayed.

Cautions : If it initializes, all adjustments of a video parameter will become invalid. After initialization should be adjustment for video parameter.

ADJUSTMENT

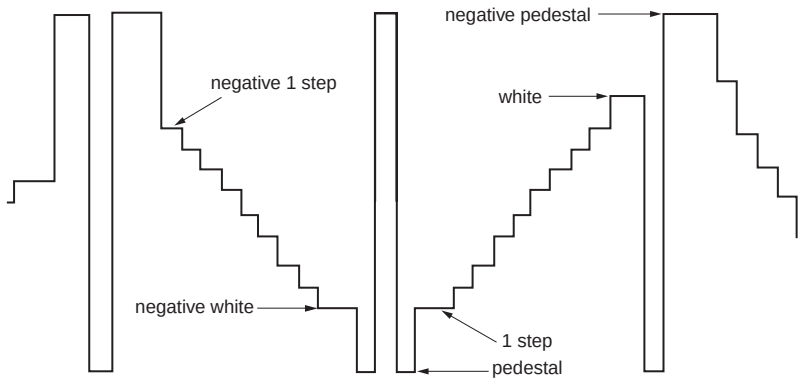
No.	Adjustment item	Measurement point	Adjustment part	Adjustment value	Measuring instrument
1	TC freerun	IC503 3PIN (TP836)	VR502	15.734KHz ± 50Hz Connect the TP837 (IC503 5PIN) between to GND line	Frequency counter
2	VCO	IC502 32PIN (TP212)	TEST mode CH16	15.734KHz ± 50Hz Connect the TP835 (IC502 45PIN) between to GND line	Frequency counter
3	BLACK LIMITEER	TP204 (G OUT)	TEST mode CH5	Adjust the amplitude value so that the waveform between the pedestal to the negative pedestal is 3.5V ± 0.1V	Oscilloscope
4	WHITE LIMITTER	TP204 (G OUT)	TEST mode CH10	Adjust the amplitude value so that the waveform between the white to the negative white is 3.1V ± 0.1V	Oscilloscope
5	BRIGHT	TP204 (G OUT)	TEST mode CH6	Adjust the amplitude value so that the waveform between the 1 step signal to the negative 1 step signal is 3.3V ± 0.1V	Oscilloscope

ADJUSTMENT

No.	Adjustment item	Measurement point	Adjustment part	Adjustment value	Measuring instrument
6	CONTRAST	TP204 (G OUT)	TEST mode CH13	Adjust the amplitude value so that the waveform between the white to the negative white is 2.7V ± 0.1V	Oscilloscope
7	Y GAIN	TP204 (G OUT)	TEST mode CH2	Adjust the amplitude value so that the waveform between the pedestal to the 10 step signal is 3.1V ± 0.1V	Oscilloscope
8	GAMMA1	TP204 (G OUT)	TEST mode CH11	Adjust the amplitude value so that the waveform between the pedestal to the 3 step signal is 1.4V ± 0.1V	Oscilloscope
9	GAMMA2	TP204 (G OUT)	TEST mode CH12	Adjust the amplitude value so that the waveform between the pedestal to the 10 step signal is 3.2V ± 0.1V	Oscilloscope
10	R SUB BRIGHT	TP203 (R OUT)	TEST mode CH8	Adjust the amplitude value so that the waveform between the 1 step signal to the negative 1 step signal is 3.3V ± 0.1V	Oscilloscope
11	B SUB BRIGHT	TP205 (B OUT)	TEST mode CH9	Adjust the amplitude value so that the waveform between the 1 step signal to the negative 1 step signal is 3.3V ± 0.1V	Oscilloscope
12	R SUB CONTRAST	TP203 (R OUT)	TEST mode CH14	Adjust the amplitude value so that the waveform between the white to the negative white is 2.9V ± 0.1V	Oscilloscope
13	B SUB CONTRAST	TP205 (B OUT)	TEST mode CH15	Adjust the amplitude value so that the waveform between the white to the negative white is 2.5V ± 0.1V	Oscilloscope
14	VCOM	CN501 16PIN (TP611)	TEST mode CH1	Adjust the amplitude value so that VCOM square wave is 7.4V ± 0.1V	Oscilloscope
15	FLICKER	DISPLAY	TEST mode CH23	It adjusts so that the flicker level will be the minimum (Auto dimmer off / Bright = max / Zoom mode)	-
16	PICTURE POSITION	DISPLAY	VR501	The screen of NAVI is made into 2 screen mode. It adjusts so that an active window may come to the right end of a screen.	-

INPUT VIDEO SIGNAL : 10STEP VIDEO SIGNAL (NTSC 1.0Vp-p)

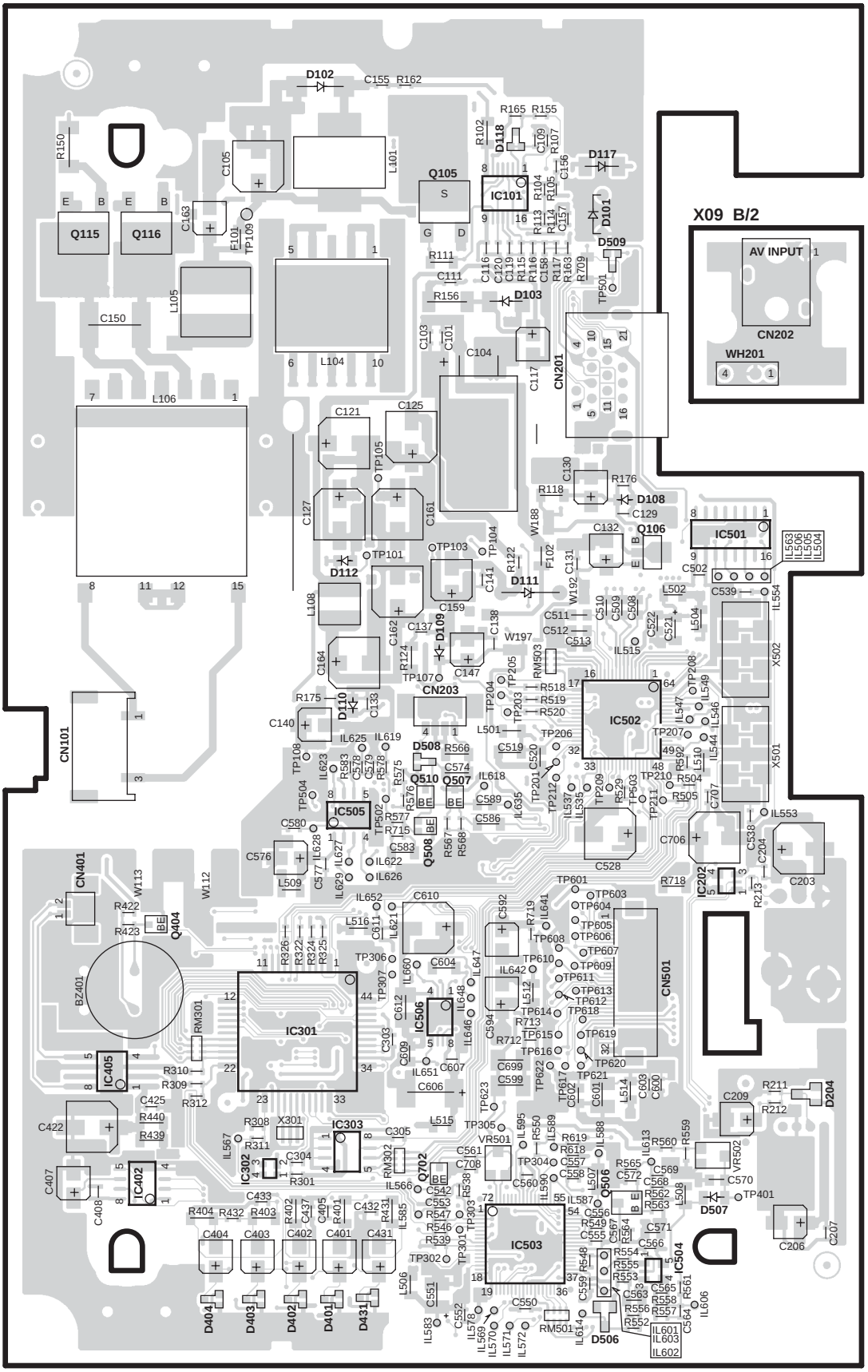
The definition of video signal and pedestal signal



LZ-651W

PC BOARD (COMPONENT SIDE VIEW)

MAIN UNIT X09-716x-xx A/2 (ZJ74-0001-02)



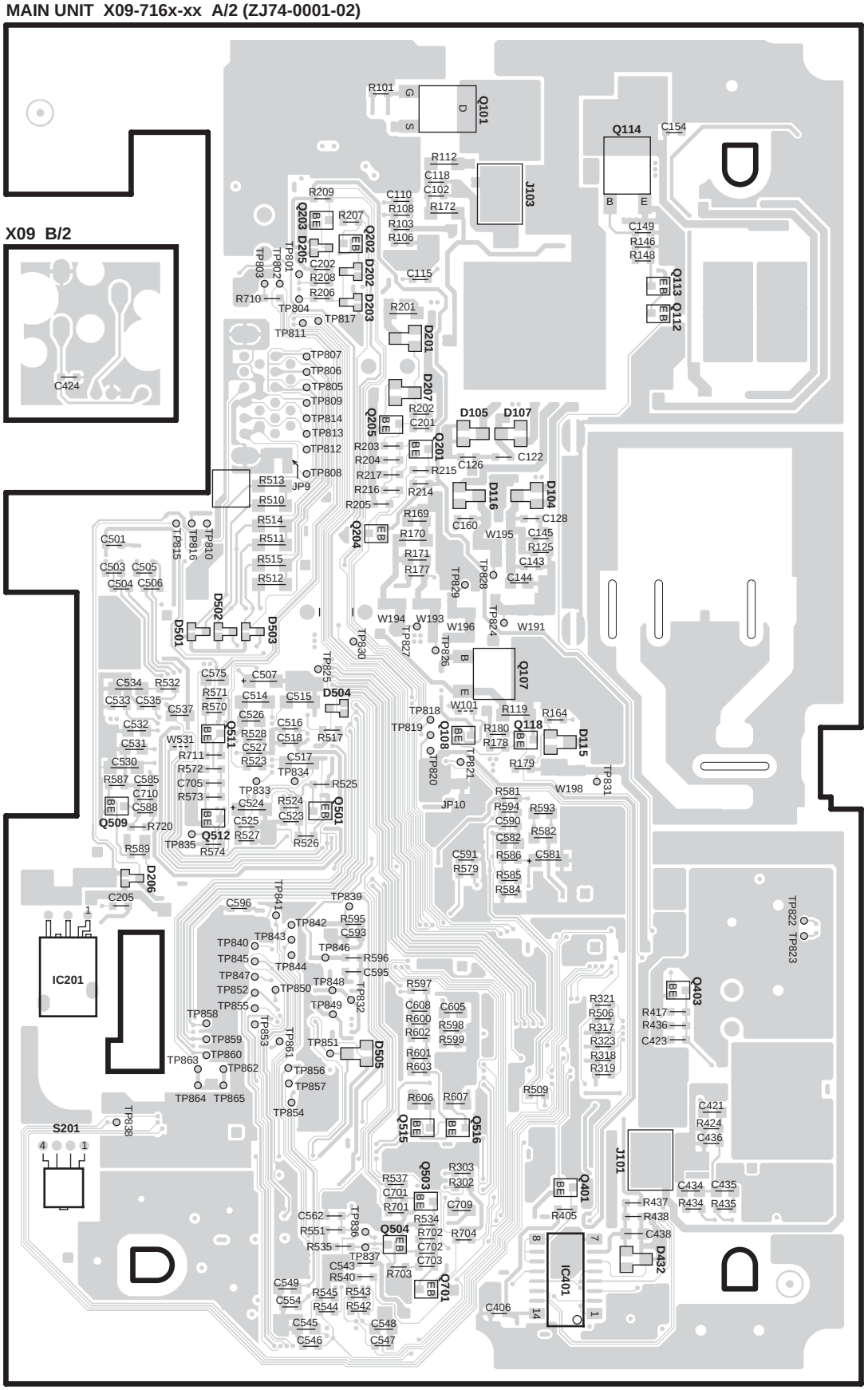
X09-716x-xx

IC	Q	Address
101		2C
202		5D
301		6B
302		6B
303		6B
402		6B
405		6A
501		3D
502		4D
503		6C
504		7D
505		5B
506		5C
	105	2C
	106	4D
	115	2A
	116	2B
	404	5B
	506	6D
	507	5C
	508	5C
	510	5C
	702	6C

Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (FOIL SIDE VIEW)

MAIN UNIT X09-716x-xx A/2 (ZJ74-0001-02)

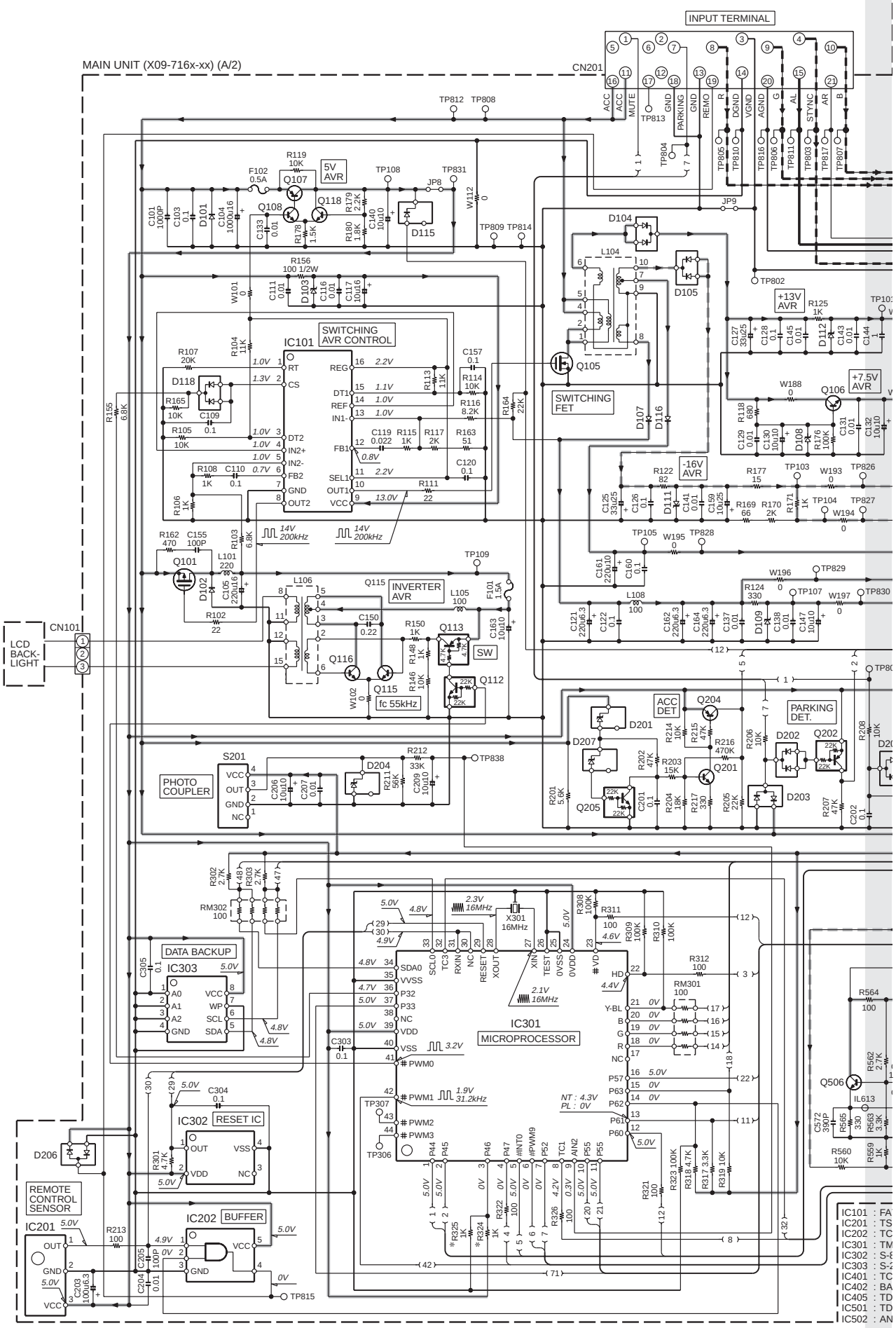


X09-716x-xx

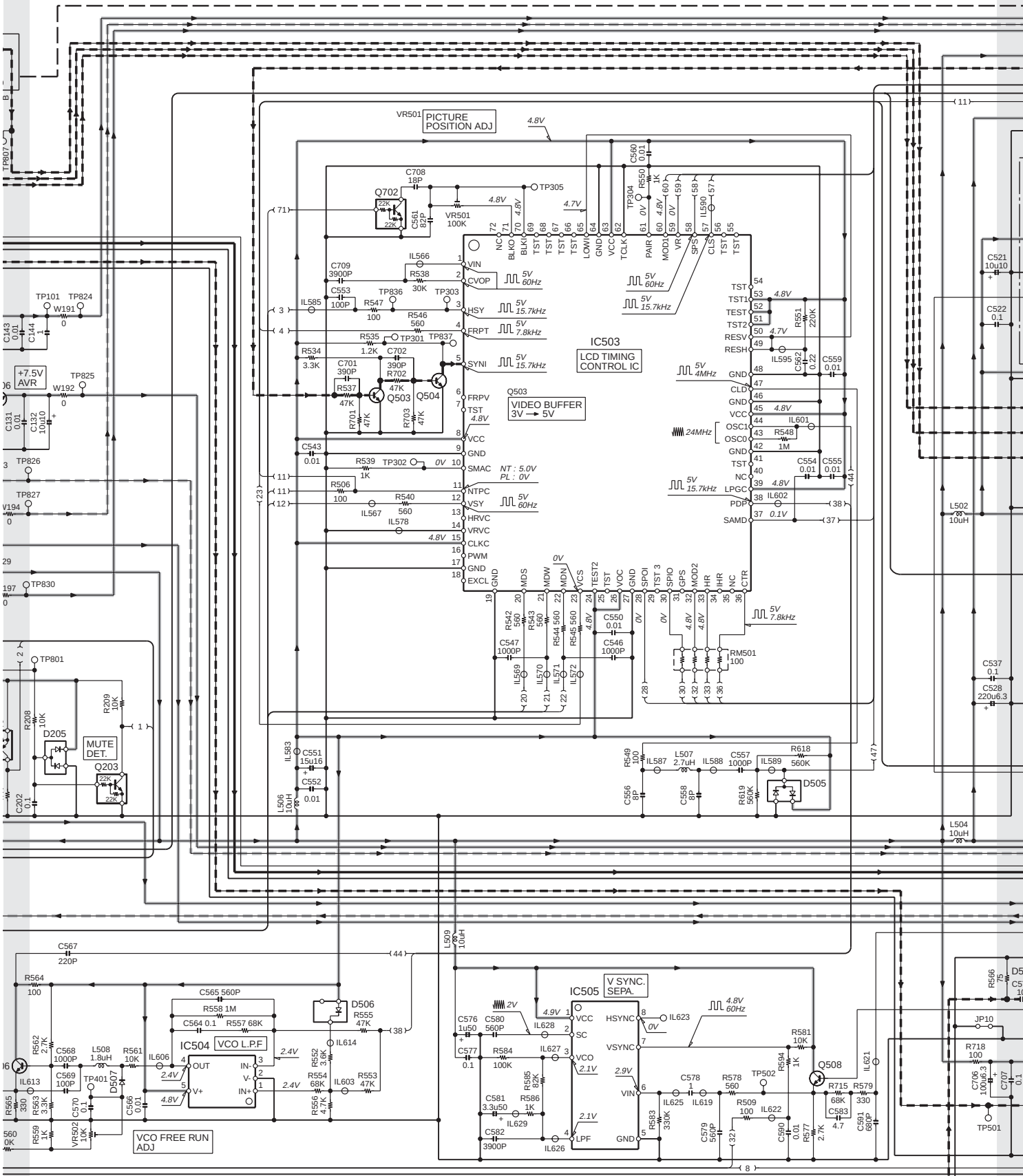
IC	Q	Address
201		5F
401		7H
	101	2G
	107	4H
	108	4H
	112	2H
	113	2H
	118	4H
	201	3G
	202	2G
	203	2G
	204	3G
	205	3G
	401	6H
	403	5H
	501	5G
	503	6G
	504	6G
	509	5F
	511	4F
	512	5F
	515	6G
	516	6H

Refer to the schematic diagram for the values of resistors and capacitors.

LZ-651W

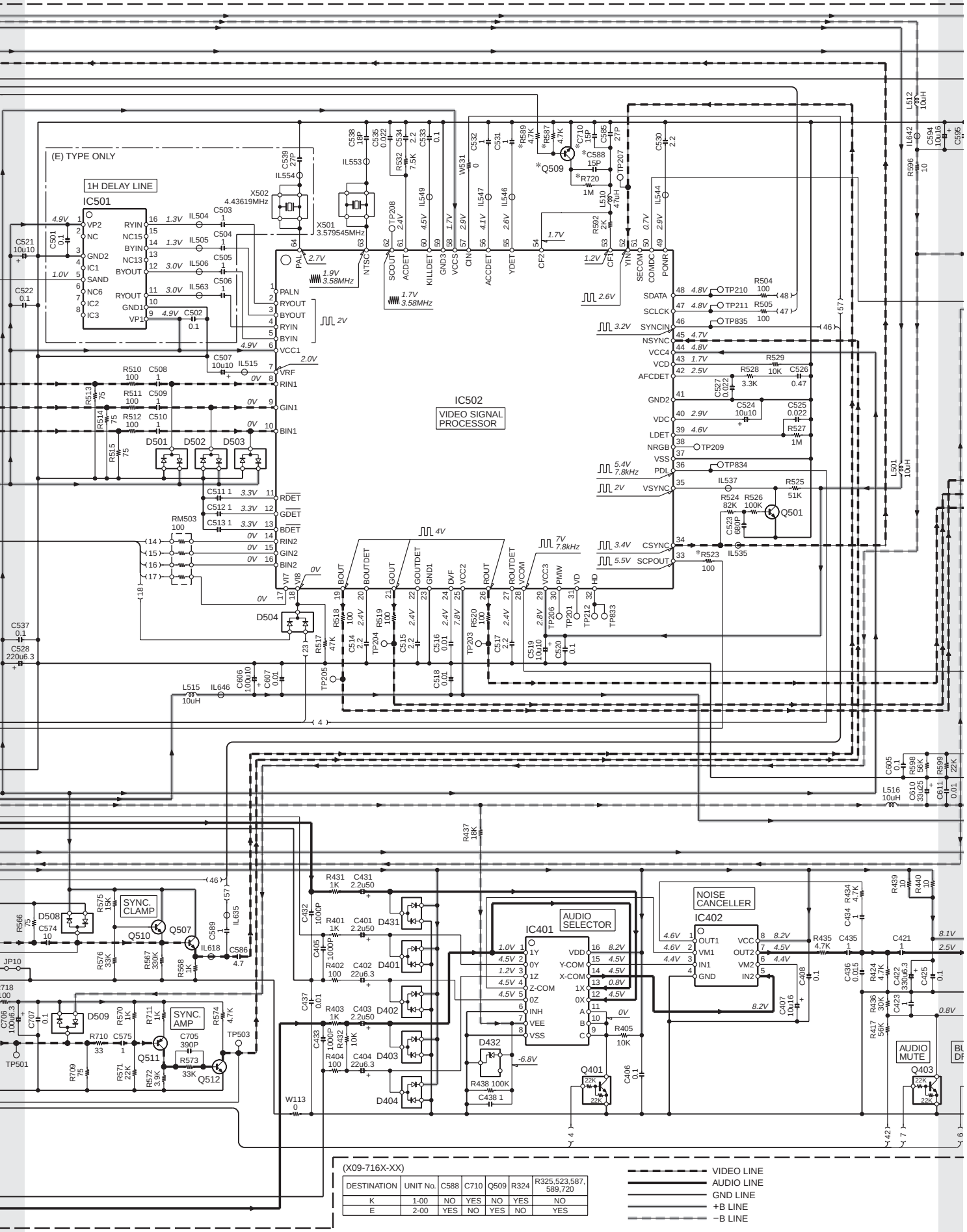

INPUT TERMINAL
CN201
MAIN UNIT (X09-716x-xx) (A/2)
ACC
MUTE
PARKING
REMO
DGND
VGND
AGND
AL
STYNC
AR
TP813
TP804
TP805
TP810
TP816
TP806
TP811
TP803
TP817
TP807
TP812
TP808
TP831
TP809
TP814
TP802
TP109
TP838
TP815
5V AVR
+13V AVR
+7.5V AVR
-16V AVR
IC101
SWITCHING AVR CONTROL
SWITCHING FET
INVERTER AVR
SW
fc 55kHz
ACC DET
PARKING DET.
PHOTO COUPLER
DATA BACKUP
IC303
IC302
RESET IC
IC301
MICROPROCESSOR
IC201
BUFFER
IC202
REMOTE CONTROL SENSOR
CN101
LCD BACK-LIGHT
X301
16MHz
2.3V 16MHz
2.1V 16MHz
14V 200kHz
RM302
RM301
Q506
IL613
IC101 : FA
IC201 : TS
IC202 : TC
IC301 : TM
IC302 : S-8
IC303 : S-2
IC401 : TC
IC402 : BA
IC405 : TD
IC501 : TD
IC502 : AN

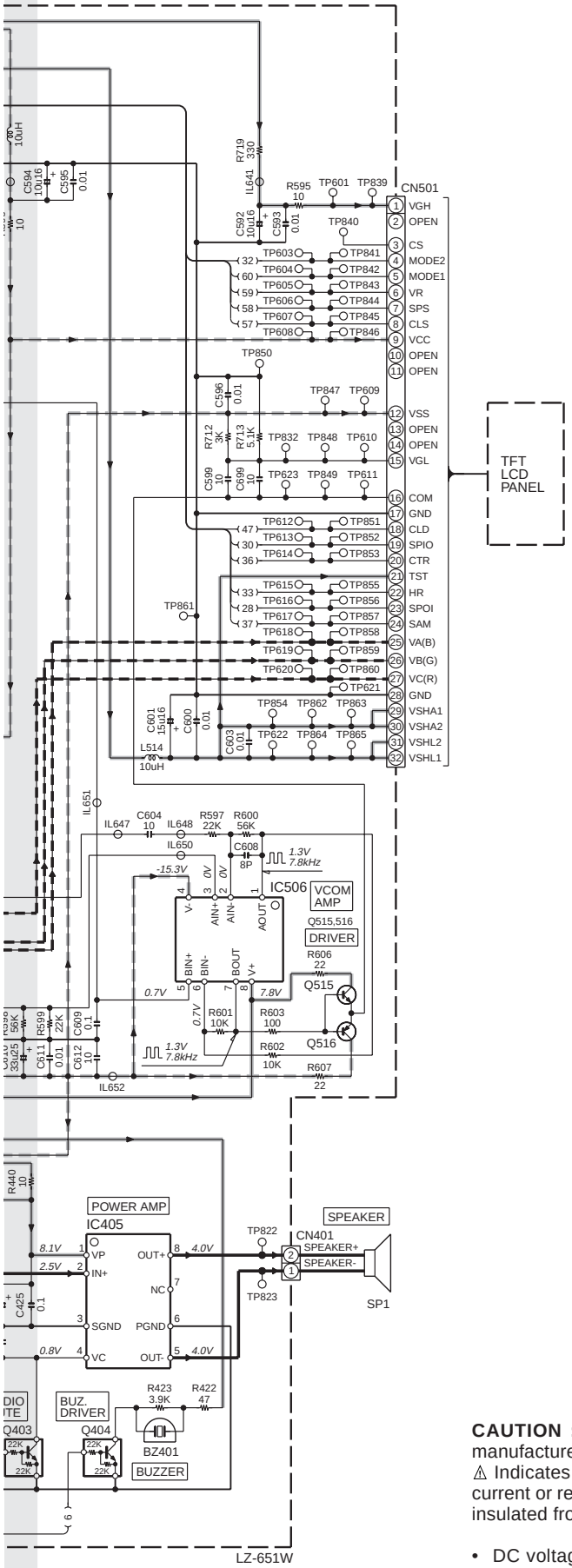
LZ-651W


VR501 PICTURE POSITION ADJ
IC503 LCD TIMING CONTROL IC
Q503 VIDEO BUFFER 3V → 5V
+7.5V AVR
MUTE DET.
VCO FREE RUN ADJ
IC504 VCO L.P.F
IC505 V SYNC. SEPA.
TP101 TP824 TP825 TP826 TP827 TP830 TP801 TP305 TP303 TP836 TP837 TP301 TP302 TP304 TP401 TP501 TP502 TP818 TP819 TP820 TP821
W191 W192 W194
D205 D506 D505 D507
Q702 Q503 Q504 Q203 Q508
RM501
L502 L504 L506 L509
JP10
CN202 CN203 WH201
AV INPUT
AV VIDEO AV GND AV GND AV AUDIO
C424 1000P

IC101 : FA7703VTE1	IC503 : LZ9GJ25	Q108,118,201,501,503,504,		D101 : AM01Z		D118,202,504	
IC201 : TSOP1838-NK	IC504 : NJM2107F	507-510,512	: 2SC4081	D102 : D3FS4A		: DAN202U	
IC202 : TC7SH08F-TE85L	IC505 : MM1108XFFE	Q112,203,205,401,403,		D103 : RD18FM(B)		D201,204,432	
IC301 : TMP88CP38AF-NK	IC506 : NJM4580V	404,702	: DTC124EUA	D104,105 : 1SS184-TE85L		: RD6.8M(B2)	
IC302 : S-80845CNNB-NK		Q113	: DTA143EUA			D203,205,206,401-404,	
IC303 : S-24C02AFB-NK	S201 : TPS818	Q115,116	: 2SC3518-Z-T1LK	D107,116 : SB05-05CP		431,501-503,508,509	
IC401 : TC4053BF(N)		Q202	: DTA124EUA	D108 : MA8082-M		: DA204U	
IC402 : BA3121F	Q101 : 2SJ377	Q204,511	: 2SA1576A(R,S)	D109 : MA8030		D207 : RD10M(B1)	
IC405 : TDA7052BT	Q105 : 2SK3416TL-NK	Q506	: 2SC2413K	D111 : RD16E(B3)		D505 : MA716	
IC501 : TDA4665T	Q106 : 2SD1766	Q515	: 2SC4097	D112 : MA8130-M		D507 : MA335	
IC502 : AN2546FH-A	Q107 : 2SB1203-FA	Q516	: 2SA1577	D115,506 : MA152K			

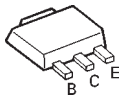
LZ-651W


(E) TYPE ONLY
1H DELAY LINE
IC501
X502 4.43619MHz
X501 3.579545MHz
IC502
VIDEO SIGNAL PROCESSOR
IC401
AUDIO SELECTOR
IC402
NOISE CANCELLER
SYNC. CLAMP
SYNC. AMP
AUDIO MUTE
Q501
Q507
Q509
Q510
Q511
Q512
Q401
Q403
D501
D502
D503
D504
D508
D509
D431
D401
D402
D403
D404
D432
(X09-716X-XX)
DESTINATION | UNIT No. | C588 | C710 | Q509 | R324 | R325,523,587, 589,720
K | 1-00 | NO | YES | NO | YES | NO
E | 2-00 | YES | NO | YES | NO | YES
VIDEO LINE
AUDIO LINE
GND LINE
+B LINE
−B LINE

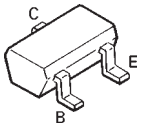


2SA1576A
2SC2413K

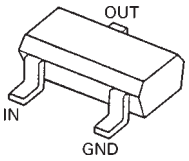
2SD1766



2SC4081



DTA124EUA
DTA143EUA
DTC124EUA



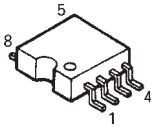
DAN202U

DA204U

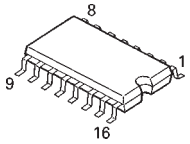
MA716

RD10M
RD6.8M

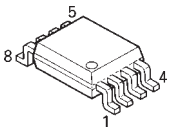
BA3121F



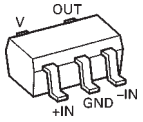
TC4053BF



NJM4580V



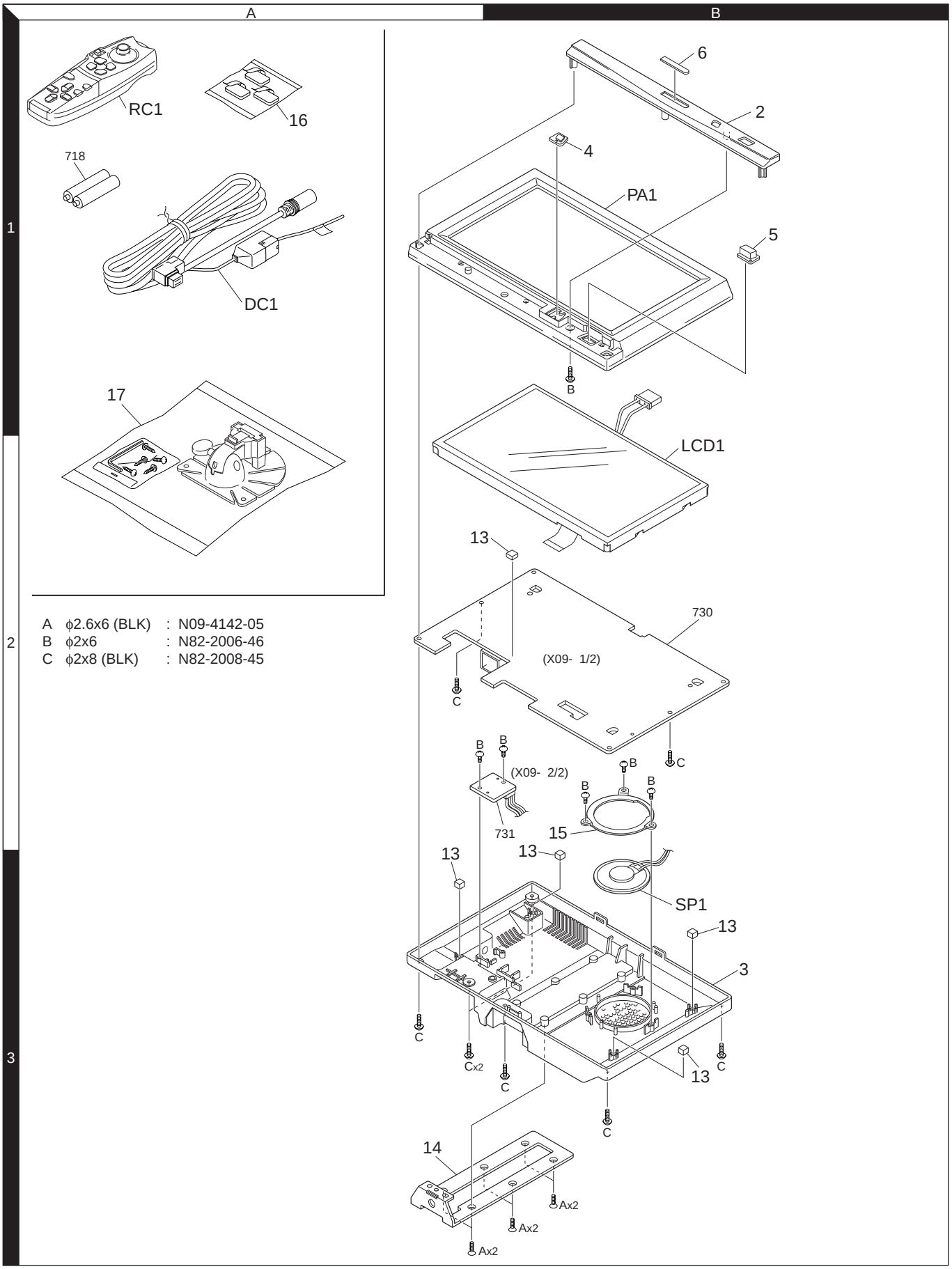
NJM2107F



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).
⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

EXPLODED VIEW



A φ2.6x6 (BLK) : N09-4142-05
B φ2x6 : N82-2006-46
C φ2x8 (BLK) : N82-2008-45

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

✻ New parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No.	Add	New	Parts No.	Description			Destination
LZ-651W							
2	1B	✻	A21-4313-08	DRESSING PANEL			
3	3B	✻	A46-1794-08	REAR COVER			
PA1	1B	✻	A64-3137-08	PANEL			
RC1	1A	✻	A70-2047-05	REMOCON ASSY (KNA-RC300)			
4	1B		B10-3199-04	FRONT GLASS			
5	1B		B10-3200-04	FRONT GLASS			
6	1B		B43-1270-04	KENWOOD BADGE			
-		✻	B64-2631-00	INST.MANUAL (ENG.FRE.)			K
-		✻	B64-2632-00	INST.MANUAL (GER.DUT.ITA.SPA.)			E
LCD1	2B	✻	B38-1129-05	LIQUID CRYSTAL			
⚠ DC1	1A		E30-3235-08	DC CORD			
13	2B	✻	G11-3570-08	CUSHION			
14	3B		J19-5015-14	BRACKET			
15	2B		J19-4779-14	HOLDER			
16	1A		J11-0647-05	CLAMPER ASSY			
A	3B		N09-4142-05	PAN DEAD TAPTITE SCREW			
B	2B		N82-2006-46	PAN DEAD TAPTITE SCREW			
C	3B		N82-2008-45	PAN DEAD TAPTITE SCREW			
SP1	3B	✻	T19-0264-08	SPEAKER (FULLRANGE)			
17	1A	✻	W01-1621-05	TV STAND ASSY			
MAIN UNIT (X09-7161-00/7162-00)							
C101			CK73GB1H102K	CHIP C	1000PF	K	
C103			CK73GB1H104K	CHIP C	0.10UF	K	
C104			C90-2583-05	ELECTRO	1000UF	16WV	
C105			C92-1610-05	ELECTRO	2200UF	16WV	
C109,110			CK73GB1H104K	CHIP C	0.10UF	K	
C111			CK73GB1H103K	CHIP C	0.010UF	K	
C116			CK73GB1H103K	CHIP C	0.010UF	K	
C117			C92-0671-05	ELECTRO	10UF	16WV	
C119			CK73GB1H223K	CHIP C	0.022UF	K	
C120			CK73GB1H104K	CHIP C	0.10UF	K	
C121			C92-1429-05	ELECTRO	220UF	6.3WV	
C122			CK73GB1H104K	CHIP C	0.10UF	K	
C125			C92-0678-05	ELECTRO	33UF	25WV	
C126			CK73GB1H104K	CHIP C	0.10UF	K	
C127			C92-0678-05	ELECTRO	33UF	25WV	
C128			CK73GB1H104K	CHIP C	0.10UF	K	
C129			CK73GB1H103K	CHIP C	0.010UF	K	
C130			C92-0667-05	ELECTRO	10UF	10WV	
C131			CK73GB1H103K	CHIP C	0.010UF	K	
C132			C92-0667-05	ELECTRO	10UF	10WV	
C133			CK73GB1H103K	CHIP C	0.010UF	K	
C137,138			CK73GB1H103K	CHIP C	0.010UF	K	
C140			C92-0667-05	ELECTRO	10UF	10WV	
C141			CK73GB1H103K	CHIP C	0.010UF	K	
C143			CK73GB1H103K	CHIP C	0.010UF	K	

Ref. No.	Add	New	Parts No.	Description			Destination
C144			CK73FB1C105K	CHIP C	1.0UF	K	
C145			CK73GB1H103K	CHIP C	0.010UF	K	
C147			C92-0667-05	ELECTRO	10UF	10WV	
C150		✻	C93-1330-08	CHIP C	0.22UF	K	
C155			CC73GCH1H101J	CHIP C	100PF	J	
C157			CK73GB1H104K	CHIP C	0.10UF	K	
C159			C92-0676-05	ELECTRO	10UF	25WV	
C160			CK73GB1H104K	CHIP C	0.10UF	K	
C161		✻	C92-1822-08	ELECTRO	220UF	10WV	
C162			C92-1429-05	ELECTRO	220UF	6.3WV	
C163			C92-0667-05	ELECTRO	10UF	10WV	
C164			C92-1429-05	ELECTRO	220UF	6.3WV	
C201,202			CK73GB1H104K	CHIP C	0.10UF	K	
C203			C92-0093-05	CHIP C	100UF	6.3WV	
C204			CK73GB1H103K	CHIP C	0.010UF	K	
C205			CC73GCH1H101J	CHIP C	100PF	J	
C206			C92-0667-05	ELECTRO	10UF	10WV	
C207			CK73GB1H103K	CHIP C	0.010UF	K	
C209			C92-0667-05	ELECTRO	10UF	10WV	
C303-305			CK73GB1H104K	CHIP C	0.10UF	K	
C401			C92-0687-05	ELECTRO	2.2UF	50WV	
C402			C92-0090-05	CHIP C	22UF	6.3WV	
C403			C92-0687-05	ELECTRO	2.2UF	50WV	
C404			C92-0090-05	CHIP C	22UF	6.3WV	
C405			CK73GB1H102K	CHIP C	1000PF	K	
C406			CK73GB1H104K	CHIP C	0.10UF	K	
C407			C92-0671-05	ELECTRO	10UF	16WV	
C408			CK73GB1H104K	CHIP C	0.10UF	K	
C421			CK73FB1C105K	CHIP C	1.0UF	K	
C422			C92-1428-05	ELECTRO	330UF	6.3WV	
C423			CK73GB0J105K	CHIP C	1.0UF	K	
C424			CC73GCH1H102J	CHIP C	1000PF	J	
C425			CK73GB1H104K	CHIP C	0.10UF	K	
C431			C92-0687-05	ELECTRO	2.2UF	50WV	
C432,433			CK73GB1H102K	CHIP C	1000PF	K	
C434,435			CK73FB1C105K	CHIP C	1.0UF	K	
C436			CK73GB1H153K	CHIP C	0.015UF	K	
C437			CK73GB1H103K	CHIP C	0.010UF	K	
C438			CK73FB1C105K	CHIP C	1.0UF	K	
C501,502			CK73GB1C104K	CHIP C	0.10UF	K	E
C503-506			CK73GB0J105K	CHIP C	1.0UF	K	E
C507			C92-0628-05	CHIP-TAN	10UF	10WV	
C508-513			CK73FB1C105K	CHIP C	1.0UF	K	
C514,515			CK73EB1C225K	CHIP C	2.2UF	K	
C516			CK73GB1H103K	CHIP C	0.010UF	K	
C517			CK73EB1C225K	CHIP C	2.2UF	K	
C518			CK73GB1H103K	CHIP C	0.010UF	K	
C519			C92-0628-05	CHIP-TAN	10UF	10WV	
C520			CK73FB1H104K	CHIP C	0.10UF	K	
C521			C92-0628-05	CHIP-TAN	10UF	10WV	
C522			CK73FB1H104K	CHIP C	0.10UF	K	
C523			CC73GCH1H681J	CHIP C	680PF	J	
C524			C92-0628-05	CHIP-TAN	10UF	10WV	
C525			CK73GB1H223K	CHIP C	0.022UF	K	
C526			CK73FB1C474K	CHIP C	0.47UF	K	

E : Europe **K** : North America

⚠ Indicates safety critical components.

PARTS LIST

✻ New parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

MAIN UNIT (X09-7161-00/7162-00)

Ref. No.	Add	New	Parts No.	Description			Destination
C527			CK73GB1H223K	CHIP C	0.022UF	K	
C528			C92-1429-05	ELECTRO	220UF	6.3WV	
C530			CK73EB1C225K	CHIP C	2.2UF	K	
C531,532			CK73FB1C105K	CHIP C	1.0UF	K	
C533			CK73GB1C104K	CHIP C	0.10UF	K	
C534			CK73EB1C225K	CHIP C	2.2UF	K	
C535			CK73GB1H223K	CHIP C	0.022UF	K	
C537			CK73FB1H104K	CHIP C	0.10UF	K	
C538			CC73GCH1H180J	CHIP C	18PF	J	
C539			CC73GCH1H270J	CHIP C	27PF	J	E
C543			CK73GB1H103K	CHIP C	0.010UF	K	
C546,547			CK73GB1H102K	CHIP C	1000PF	K	
C550			CK73GB1H103K	CHIP C	0.010UF	K	
C551			C92-1755-05	ELECTRO	15UF	16WV	
C552			CK73GB1H103K	CHIP C	0.010UF	K	
C553			CC73GCH1H101J	CHIP C	100PF	J	
C554,555			CK73GB1H103K	CHIP C	0.010UF	K	
C556			CC73GCH1H080D	CHIP C	8.0PF	D	
C557			CK73GB1H102K	CHIP C	1000PF	K	
C558			CC73GCH1H080D	CHIP C	8.0PF	D	
C559,560			CK73GB1H103K	CHIP C	0.010UF	K	
C561			CC73GCH1H820J	CHIP C	82PF	J	
C562			CK73GB1A224K	CHIP C	0.22UF	K	
C564			CK73GB1C104K	CHIP C	0.10UF	K	
C565			CC73GCH1H561J	CHIP C	560PF	J	
C566			CK73GB1H103K	CHIP C	0.010UF	K	
C567			CC73GCH1H221J	CHIP C	220PF	J	
C568			CC73GCH1H102J	CHIP C	1000PF	J	
C569			CC73GCH1H101J	CHIP C	100PF	J	
C570			CK73FB1H104K	CHIP C	0.10UF	K	
C572			CC73GCH1H391J	CHIP C	390PF	J	
C574			CK73EB1A106K	CHIP C	10UF	K	
C575			CK73FB1C105K	CHIP C	1.0UF	K	
C576			C92-0686-05	ELECTRO	1UF	50WV	
C577			CK73GB1C104K	CHIP C	0.10UF	K	
C578			CK73GB0J105K	CHIP C	1.0UF	K	
C579,580			CC73GCH1H561J	CHIP C	560PF	J	
C581			C92-0543-05	CHIP-TAN	3.3UF	10WV	
C582		✻	C93-1331-08	CHIP C	3900PF	J	
C583			CK73EB1A475K	CHIP C	4.7UF	K	
C585			CC73GCH1H270J	CHIP C	27PF	J	
C586			CK73EB1A475K	CHIP C	4.7UF	K	
C588			CC73GCH1H150J	CHIP C	15PF	J	E
C589			CK73FB1C105K	CHIP C	1.0UF	K	
C590			CK73GB1H103K	CHIP C	0.010UF	K	
C591			CC73GCH1H681J	CHIP C	680PF	J	
C592			C92-0671-05	ELECTRO	10UF	16WV	
C593			CK73GB1H103K	CHIP C	0.010UF	K	
C594			C92-0671-05	ELECTRO	10UF	16WV	
C595,596			CK73GB1H103K	CHIP C	0.010UF	K	
C599		✻	C93-1332-08	ELECTRO	10UF	25WV	
C600			CK73GB1H103K	CHIP C	0.010UF	K	
C601			C92-1755-05	ELECTRO	15UF	16WV	
C603			CK73GB1H103K	CHIP C	0.010UF	K	
C604			CK73EB1A106K	CHIP C	10UF	K	

Ref. No.	Add	New	Parts No.	Description			Destination
C605			CK73FB1H104K	CHIP C	0.10UF	K	
C606			C92-1452-05	ELECTRO	100UF	10WV	
C607			CK73GB1H103K	CHIP C	0.010UF	K	
C608			CC73GCH1H080D	CHIP C	8.0PF	D	
C609			CK73FB1H104K	CHIP C	0.10UF	K	
C610			C92-0678-05	ELECTRO	33UF	25WV	
C611			CK73GB1H103K	CHIP C	0.010UF	K	
C612		✻	C93-1332-08	ELECTRO	10UF	25WV	
C699		✻	C93-1332-08	ELECTRO	10UF	25WV	
C701,702			CC73GCH1H391J	CHIP C	390PF	J	
C705			CC73GCH1H391J	CHIP C	390PF	J	
C706			C92-0093-05	CHIP C	100UF	6.3WV	
C707			CK73GB1C104K	CHIP C	0.10UF	K	
C708			CC73GCH1H180J	CHIP C	18PF	J	
C709		✻	C93-1331-08	CHIP C	3900PF	J	
C710			CC73GCH1H150J	CHIP C	15PF	J	K
L105		✻	CR105-101KC	SMALL FIXED INDUCTOR			
L108		✻	CR54-101KC	SMALL FIXED INDUCTOR			
CN101			E40-9484-05	PIN ASSY (3PIN)			
⚠ CN201		✻	E58-0981-05	RECTANGULAR RECEPTACLE			
CN202			E11-0633-05	PHONE JACK			
CN203			E40-5887-05	PIN ASSY (4PIN)			
CN401			E40-9449-05	PIN ASSY (2PIN)			
CN501			E41-0363-05	FLAT CABLE CONNECTOR (32PIN)			
WH201		✻	E39-0603-08	WIRE HARNESS			
L101			L33-1124-05	CHOKE COIL			
L104		✻	L19-0750-08	TRANSFORMER			
L106		✻	L19-0749-08	TRANSFORMER			
L501,502			L40-1001-78	SMALL FIXED INDUCTOR			
L504			L40-1001-78	SMALL FIXED INDUCTOR			
L506			L40-1001-78	SMALL FIXED INDUCTOR			
L507			L40-2795-34	SMALL FIXED INDUCTOR			
L508			L40-1895-85	SMALL FIXED INDUCTOR			
L509			L40-1001-78	SMALL FIXED INDUCTOR			
L510			L40-4705-79	SMALL FIXED INDUCTOR			
L512			L40-1001-78	SMALL FIXED INDUCTOR			
L514-516			L40-1001-78	SMALL FIXED INDUCTOR			
X301		✻	L78-0890-08	CRYSTAL RESONATOR(16MHz)			
X501			L77-2806-05	CRYSTAL RESONATOR(3.579545MHz)			
X502			L77-2807-05	CRYSTAL RESONATOR(4.43691MHz)			E
R102			RK73EB2E220J	CHIP R	22	J 1/4W	
R103			RN73GH1J682D	CHIP R	6.8K	D 1/16W	
R104			RK73GB2A113J	CHIP R	11K	J 1/10W	
R105			RK73GB2A103J	CHIP R	10K	J 1/10W	
R106			RN73GH1J102D	CHIP R	1.0K	D 1/16W	
R107			RK73GB2A203J	CHIP R	20K	J 1/10W	
R108			RK73GB2A102J	CHIP R	1.0K	J 1/10W	
R111			RK73EB2E220J	CHIP R	22	J 1/4W	
R113			RK73GB2A113J	CHIP R	11K	J 1/10W	
R114			RK73GB2A103J	CHIP R	10K	J 1/10W	
R115			RK73GB2A102J	CHIP R	1.0K	J 1/10W	
R116		✻	RN73GH1J822D	CHIP R	8.2K	D 1/16W	
R117		✻	RN73GH1J202D	CHIP R	2.0K	D 1/16W	
R118			R92-3078-05	CHIP R	680	J 1/4W	

E : Europe **K** : North America

⚠ Indicates safety critical components.

PARTS LIST

✻ New parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

MAIN UNIT (X09-7161-00/7162-00)

Ref. No.	Add	New	Parts No.	Description				Destination
R119		✻	R92-3473-08	CHIP R	10K	J	1/4W	
R122			RK73GB2A820J	CHIP R	82	J	1/10W	
R124		✻	R92-3474-08	CHIP R	330	J	1/4W	
R125			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R146			RK73GB2A103J	CHIP R	10K	J	1/10W	
R148			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R150			R92-0365-05	CHIP R	1.0K	J	1/2W	
R155			RK73GB2A682J	CHIP R	6.8K	J	1/10W	
R156			R92-1213-05	CHIP R	100	J	1/2W	
R162			RK73GB2A471J	CHIP R	470	J	1/10W	
R163		✻	RN73GH1J510D	CHIP R	51	D	1/16W	
R164			RK73GB2A223J	CHIP R	22K	J	1/10W	
R165			RK73GB2A103J	CHIP R	10K	J	1/10W	
R169		✻	R92-3472-08	CHIP R	68	J	1/10W	
R170		✻	R92-3469-08	CHIP R	2K	J	1/4W	
R171		✻	R92-3471-08	CHIP R	1K	J	1/10W	
R176			RK73GB2A104J	CHIP R	100K	J	1/10W	
R177			RK73GB2A150J	CHIP R	15	J	1/10W	
R178			RK73GB2A152J	CHIP R	1.5K	J	1/10W	
R179			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R180			RK73GB2A182J	CHIP R	1.8K	J	1/10W	
R201		✻	RK73EB2E562J	CHIP R	5.6K	J	1/4W	
R202			RK73GB2A473J	CHIP R	47K	J	1/10W	
R203			RK73GB2A153J	CHIP R	15K	J	1/10W	
R204			RK73GB2A183J	CHIP R	18K	J	1/10W	
R205			RK73GB2A223J	CHIP R	22K	J	1/10W	
R206			RK73GB2A103J	CHIP R	10K	J	1/10W	
R207			RK73GB2A473J	CHIP R	47K	J	1/10W	
R208,209			RK73GB2A103J	CHIP R	10K	J	1/10W	
R211			RK73GB2A563J	CHIP R	56K	J	1/10W	
R212			RK73GB2A333J	CHIP R	33K	J	1/10W	
R213			RK73GB2A101J	CHIP R	100	J	1/10W	
R214			RK73GB2A103J	CHIP R	10K	J	1/10W	
R215			RK73GB2A473J	CHIP R	47K	J	1/10W	
R216			RK73GB2A474J	CHIP R	470K	J	1/10W	
R217			RK73GB2A331J	CHIP R	330	J	1/10W	
R301			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R302,303			RK73GB2A272J	CHIP R	2.7K	J	1/10W	
R308-310			RK73GB2A104J	CHIP R	100K	J	1/10W	
R311,312			RK73GB2A101J	CHIP R	100	J	1/10W	
R317			RK73GB2A332J	CHIP R	3.3K	J	1/10W	
R318			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R319			RK73GB2A103J	CHIP R	10K	J	1/10W	
R321,322			RK73GB2A101J	CHIP R	100	J	1/10W	
R323			RK73GB2A104J	CHIP R	100K	J	1/10W	
R324			RK73GB2A102J	CHIP R	1.0K	J	1/10W	K
R325			RK73GB2A102J	CHIP R	1.0K	J	1/10W	E
R326			RK73GB2A101J	CHIP R	100	J	1/10W	
R401			RK73EB2B102J	CHIP R	1.0K	J	1/8W	
R402			RK73EB2E101J	CHIP R	100	J	1/4W	
R403			RK73EB2B102J	CHIP R	1.0K	J	1/8W	
R404			RK73EB2E101J	CHIP R	100	J	1/4W	
R405			RK73GB2A103J	CHIP R	10K	J	1/10W	
R417			RK73GB2A563J	CHIP R	56K	J	1/10W	
R422			RK73GB2A470J	CHIP R	47	J	1/10W	

Ref. No.	Add	New	Parts No.	Description				Destination
R423			RK73GB2A392J	CHIP R	3.9K	J	1/10W	
R424			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R431			RK73EB2B102J	CHIP R	1.0K	J	1/8W	
R432			RK73GB2A103J	CHIP R	10K	J	1/10W	
R434,435			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R436			RK73GB2A303J	CHIP R	30K	J	1/10W	
R437			RK73GB2A183J	CHIP R	18K	J	1/10W	
R438			RK73GB2A104J	CHIP R	100K	J	1/10W	
R439,440			RK73EB2E100J	CHIP R	10	J	1/4W	
R504-506			RK73GB2A101J	CHIP R	100	J	1/10W	
R509			RK73GB2A101J	CHIP R	100	J	1/10W	
R510-512			RK73EB2E101J	CHIP R	100	J	1/4W	
R513-515			RK73EB2E750J	CHIP R	75	J	1/4W	
R517			RK73GB2A473J	CHIP R	47K	J	1/10W	
R518-520			RK73GB2A101J	CHIP R	100	J	1/10W	
R523			RK73GB2A101J	CHIP R	100	J	1/10W	E
R524			RK73GB2A823J	CHIP R	82K	J	1/10W	
R525			RK73GB2A513J	CHIP R	51K	J	1/10W	
R526			RK73GB2A104J	CHIP R	100K	J	1/10W	
R527			RK73GB2A105J	CHIP R	1.0M	J	1/10W	
R528			RK73GB2A332J	CHIP R	3.3K	J	1/10W	
R529			RK73GB2A103J	CHIP R	10K	J	1/10W	
R532			RK73GB2A752J	CHIP R	7.5K	J	1/10W	
R534			RK73GB2A332J	CHIP R	3.3K	J	1/10W	
R535			RK73GB2A122J	CHIP R	1.2K	J	1/10W	
R537			RK73GB2A473J	CHIP R	47K	J	1/10W	
R538			RK73GB2A303J	CHIP R	30K	J	1/10W	
R539			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R540			RK73GB2A561J	CHIP R	560	J	1/10W	
R542-546			RK73GB2A561J	CHIP R	560	J	1/10W	
R547			RK73GB2A101J	CHIP R	100	J	1/10W	
R548			RK73GB2A105J	CHIP R	1.0M	J	1/10W	
R549			RK73GB2A101J	CHIP R	100	J	1/10W	
R550			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R551			RK73GB2A224J	CHIP R	220K	J	1/10W	
R552			RK73GB2A362J	CHIP R	3.6K	J	1/10W	
R553			RK73GB2A473J	CHIP R	47K	J	1/10W	
R554			RK73GB2A683J	CHIP R	68K	J	1/10W	
R555			RK73GB2A473J	CHIP R	47K	J	1/10W	
R556			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R557			RK73GB2A683J	CHIP R	68K	J	1/10W	
R558			RK73GB2A105J	CHIP R	1.0M	J	1/10W	
R559			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R560,561			RK73GB2A103J	CHIP R	10K	J	1/10W	
R562			RK73GB2A272J	CHIP R	2.7K	J	1/10W	
R563			RK73GB2A332J	CHIP R	3.3K	J	1/10W	
R564			RK73GB2A101J	CHIP R	100	J	1/10W	
R565			RK73GB2A331J	CHIP R	330	J	1/10W	
R566			RK73EB2E750J	CHIP R	75	J	1/4W	
R567			RK73GB2A334J	CHIP R	330K	J	1/10W	
R568			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R570			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R571			RK73GB2A223J	CHIP R	22K	J	1/10W	
R572			RK73GB2A392J	CHIP R	3.9K	J	1/10W	
R573			RK73GB2A333J	CHIP R	33K	J	1/10W	

E : Europe **K** : North America

⚠ Indicates safety critical components.

PARTS LIST

✻ New parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

MAIN UNIT (X09-7161-00/7162-00)

Ref. No.	Add	New	Parts No.	Description	Destination
R574			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R575			RK73GB2A153J	CHIP R 15K J 1/10W	
R576			RK73GB2A333J	CHIP R 33K J 1/10W	
R577			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R578			RK73GB2A561J	CHIP R 560 J 1/10W	
R579			RK73GB2A331J	CHIP R 330 J 1/10W	
R581			RK73GB2A103J	CHIP R 10K J 1/10W	
R583			RK73GB2A334J	CHIP R 330K J 1/10W	
R584			RN73GH1J104D	CHIP R 100K D 1/16W	
R585		✻	RN73GH1J823D	CHIP R 82K D 1/16W	
R586			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R587			RK73GB2A472J	CHIP R 4.7K J 1/10W	E
R589			RK73GB2A472J	CHIP R 4.7K J 1/10W	E
R592			RK73GB2A202J	CHIP R 2.0K J 1/10W	
R594			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R595,596			RK73GB2A100J	CHIP R 10 J 1/10W	
R597			RK73GB2A223J	CHIP R 22K J 1/10W	
R598			RK73GB2A563J	CHIP R 56K J 1/10W	
R599			RK73GB2A223J	CHIP R 22K J 1/10W	
R600			RK73GB2A563J	CHIP R 56K J 1/10W	
R601,602			RK73GB2A103J	CHIP R 10K J 1/10W	
R603			RK73GB2A101J	CHIP R 100 J 1/10W	
R606,607			RK73FB2B220J	CHIP R 22 J 1/8W	
R618,619			RK73GB2A564J	CHIP R 560K J 1/10W	
R701-703			RK73GB2A473J	CHIP R 47K J 1/10W	
R709			RK73EB2E750J	CHIP R 75 J 1/4W	
R710			RK73GB2A330J	CHIP R 33 J 1/10W	
R711			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R712		✻	RN73GH1J302D	CHIP R 3.0K D 1/16W	
R713			RN73GH1J512D	CHIP R 5.1K D 1/16W	
R715			RK73GB2A683J	CHIP R 68K J 1/10W	
R718			RK73EB2E101J	CHIP R 100 J 1/4W	
R719			RK73GB2A331J	CHIP R 330 J 1/10W	
R720			RK73GB2A105J	CHIP R 1.0M J 1/10W	E
RM301,302			R90-1014-05	MULTI-COMP 100 X4	
RM501			R90-1014-05	MULTI-COMP 100 X4	
RM503			R90-1014-05	MULTI-COMP 100 X4	
VR501			R32-0246-05	SEMI FIXED VARI.RESI. (100K)	
VR502			R32-0235-05	SEMI FIXED VARI.RESI. (10K)	
W101,102			R92-1252-05	CHIP R 0 OHM J 1/16W	
W112,113			R92-1252-05	CHIP R 0 OHM J 1/16W	
W118			R92-1252-05	CHIP R 0 OHM J 1/16W	
W191-197			R92-1252-05	CHIP R 0 OHM J 1/16W	
BZ401			T95-0228-05	BUZZER	
D101			AM01Z	DIODE	
D102			D3FS4A	DIODE	
D103			RD18FM (B)	ZENER DIODE	
D104,105		✻	1SS184-TE85L	DIODE	
D107			SB05-05CP	DIODE	
D108			MA8082-M	ZENER DIODE	
D109		✻	MA8030	ZENER DIODE	
D111			RD16E (B3)	ZENER DIODE	
D112			MA8130-M	ZENER DIODE	
D115			MA152K	DIODE	

Ref. No.	Add	New	Parts No.	Description	Destination
D116			SB05-05CP	DIODE	
D118			DAN202U	DIODE	
D201			RD6.8M (B2)	ZENER DIODE	
D202			DAN202U	DIODE	
D203			DA204U	DIODE	
D204			RD6.8M (B2)	ZENER DIODE	
D205,206			DA204U	DIODE	
D207			RD10M (B1)	ZENER DIODE	
D401-404			DA204U	DIODE	
D431			DA204U	DIODE	
D432			RD6.8M (B2)	ZENER DIODE	
D501-503			DA204U	DIODE	
D504			DAN202U	DIODE	
D505			MA716	DIODE	
D506			MA152K	DIODE	
D507			MA335	VARIABLE CAPACITOR	
D508,509			DA204U	DIODE	
⚠ F101			F53-0251-05	FUSE (0.6A)	
⚠ F102		✻	F53-0247-05	FUSE (1.5A)	
IC101			FA7703V	IC	
IC201		✻	TSOP1838-NK	OPTICAL RECEIVER	
IC202		✻	TC7SH08F-TE85L	IC	
IC301		✻	TMP88CP38AF-NK	U-COM	
IC302		✻	S-80845CNNB-NK	IC	
IC303		✻	S-24CS02AFB-NK	IC	
IC401			TC4053BF (N)	MOS-IC	
IC402			BA3121F	IC (ISO AMP)	
IC405			TDA7052BT	IC	
IC501			TDA4665T	IC	E
IC502			AN2546FH-A	IC	
IC503			LZ9GJ25	MOS-IC	
IC504			NJM2107F	IC (HIPASS FILTER)	
IC505			MM1108XFFE	IC	
IC506			NJM4580V	IC (OP AMP)	
Q101			2SJ377	FET	
Q105		✻	2SK3416TL-NK	FET	
Q106			2SD1766	TRANSISTOR	
Q107			2SB1203-FA	TRANSISTOR	
Q108			2SC4081	TRANSISTOR	
Q112			DTC124EUA	DIGITAL TRANSISTOR	
Q113			DTA143EUA	DIGITAL TRANSISTOR	
Q115,116		✻	2SC3518-Z-T1LK	TRANSISTOR	
Q118			2SC4081	TRANSISTOR	
Q201			2SC4081	TRANSISTOR	
Q202			DTA124EUA	DIGITAL TRANSISTOR	
Q203			DTC124EUA	DIGITAL TRANSISTOR	
Q204			2SA1576A (R,S)	TRANSISTOR	
Q205			DTC124EUA	DIGITAL TRANSISTOR	
Q401			DTC124EUA	DIGITAL TRANSISTOR	
Q403,404			DTC124EUA	DIGITAL TRANSISTOR	
Q501			2SC4081	TRANSISTOR	
Q503,504			2SC4081	TRANSISTOR	
Q506			2SC2413K	TRANSISTOR	
Q507,508			2SC4081	TRANSISTOR	
Q509			2SC4081	TRANSISTOR	E

E : Europe **K** : North America

⚠ Indicates safety critical components.

PARTS LIST

✻ New parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

MAIN UNIT (X09-7161-00/7162-00)

Ref. No.	Add	New	Parts No.	Description	Destination
Q510			2SC4081	TRANSISTOR	
Q511			2SA1576A (R,S)	TRANSISTOR	
Q512			2SC4081	TRANSISTOR	
Q515			2SC4097	TRANSISTOR	
Q516			2SA1577	TRANSISTOR	
Q702			DTC124EUA	DIGITAL TRANSISTOR	
S201			TPS818	IC	

Ref. No.	Add	New	Parts No.	Description	Destination

E : Europe **K** : North America

⚠ Indicates safety critical components.

LZ-651W

SPECIFICATIONS

Monitor Unit

Screen size ..... 6.95 inches wide
154.1 (W) x 86.6 (H) x 176.7 (Diagonal) mm
6-1/16 (W) x 3-7/16 (H) inches
Display system ..... Transparent TN LCD panel
Drive system ..... TFT active matrix system
Number of pixels ..... 336,960 pixels (480 H x 234 V x RGB)
Effective pixels 99.99%
Pixel arrangement ..... RGB striped arrangement
Back lighting ..... Cold cathode tube
Speaker power ..... 1 W (40mm x 1)

General

Operating voltage ..... 14.4 V DC (11-16 V)
Consumed Power ..... 14 W
Operational temperature range ..... -10°C to +60°C
Storage temperature range ..... -30°C to +80°C
Size ..... 189 (W) x 131 (H) x 37 (D) mm
7-7/16 (W) x 5-3/16 (H) x 1-7/16 (D) inch
Weight ..... 580 g (1.28 lbs)

Although the effective pixels for the liquid crystal panel is given as 99.99% or more, 0.01% of pixels may not light or may light incorrectly.

KENWOOD follows a policy of continuous advancements in development.

For this reason specifications may be changed without notice.

KENWOOD CORPORATION
2967-3, Ishikawa-machi, Hachioji-shi, Tokyo 192-8525, Japan

KENWOOD USA CORPORATION
P.O. BOX 22745, 2201 East Dominguez Street, Long Beach, CA90801-5745, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

KENWOOD ELECTRONICS LATIN AMERICA S.A.
P.O. Box 55-2791 Paitilla, Plaza Credicorp Bank Panama,
Piso 9, Oficina 901, Calle 50, Panama, Rep. de Panama

KENWOOD ELECTRONICS BRASIL LTDA.
Alameda Ministro Rocha Azevedo No. 456,
Edificio Jaú, 10o Andar, Cerqueira César, Cep 0140-001,
São Paulo-SP-Brasil

KENWOOD ELECTRONICS UK LIMITED
Kenwood House, Dwight Road, Watford, Herts, WD18 9EB, United Kingdom

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 63150 Heusenstamm, Germany

KENWOOD ELECTRONICS FRANCE S.A.
13, Boulevard Ney, 75018 Paris, France

KENWOOD ELECTRONICS BELGIUM N.V.
Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

KENWOOD ELECTRONICS ITALIA S.p.A.
Via G. Sirtori 7/9, 20129 Milano, Italy

KENWOOD IBÉRICA S.A.
Bolivia, 239-08020 Barcelona, Spain

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (A.C.N. 001 499 074)
16 Giffnock Avenue, Centrecourt Estate, North Ryde,
N.S.W. 2113, Australia

KENWOOD ELECTRONICS (HONG KONG) LTD.
Unit 3712-3724, Level 37, Tower 1, Metroplaza, 223 Hing Fong Road, Kwai Fong, N.T.,
Hong Kong

KENWOOD ELECTRONICS GULF FZE
P.O. Box 61318, Jebel Ali, Dubai, U.A.E.

KENWOOD ELECTRONICS (THAILAND) CO., LTD.
2019 New Pechburi Road, Bangkapi, Huaykwang, Bangkok, 10320 Thailand

KENWOOD ELECTRONICS SINGAPORE PTE. LTD.
1 Genting Lane, #07-00, Kenwood Building, Singapore, 349544

KENWOOD ELECTRONICS (MALAYSIA) SDN BHD
#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1, 46300 Petaling Jaya, Selangor Darul Ehsan,
Malaysia